

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1 – 17 (Canceled).

Claim 18 (Currently Amended): The method of claim ~~47~~ 25, further comprising providing a message indicating a lead-related condition to a user based on the lead status event.

Claim 19 (Previously Presented): The method of claim 18, wherein the message indicates one of a lead conductor or connector issue, a lead insulation issue, and a biological interface issue.

Claim 20 (Previously Presented): The method of claim 19, wherein the biological interface issue includes one of myocardial perforation, lead dislodgement, and exit block.

Claim 21 (Currently Amended): The method of claim ~~47~~ 25, wherein the processing comprises:
 ~~assigning weighted values to the collected data sets; and~~
 summing the assigned weighted values to determine if one of a plurality of lead status events has occurred.

Claim 22 (Currently Amended): A method of distinguishing the potential presence of lead-related conditions in a medical device, comprising:

- sensing signals received by a plurality of electrodes positioned along one or more leads;
- determining whether a number of non-physiologic sensed events occurring along a first sensing pathway formed by one or more of the plurality of electrodes is greater than a first threshold associated with the first sensing pathway to generate a first event count;

- determining whether a number of non-physiologic sensed events occurring along a second sensing pathway formed by one or more of the plurality of electrodes, different from the first sensing pathway, is greater than a second threshold associated with the second sensing pathway to generate a second event count; and

- identifying the potential presence of a lead-related condition in response to the first event count and the second event count.

Claim 23 (Previously Presented): The method of claim 22, wherein the first sensing pathway corresponds to a unipolar sensing pathway and the second sensing pathway corresponds to a bipolar sensing pathway.

Claim 24 (Previously Presented): The method of claim 22, further comprising:

- determining a number of counter windows; and
- determining whether a sum of the first event count and the second event count is greater than a count threshold, wherein the count threshold varies depending on the determined number of counter windows.

Claim 25 (New): A method of lead status monitoring by a lead status monitor in an implantable medical device, the method comprising:

measuring an impedance along an electrical pathway;

measuring a non-physiologic sensed event along the electrical pathway;

collecting data relating to at least one of a percent of time in mode switch, an R-wave amplitude, a P-wave amplitude, a reversion pace count, a refractory sense count, a high rate episode count, and a time from implant;

processing, by the lead status monitor, the collected data, the measured impedance and the non-physiologic sensed events with an algorithm having a set of weighted sum rules, wherein the algorithm assigns a value to each of the measured impedance, the measured non-physiologic sensed event, and each of the at least one of the percent of time in mode switch, the R-wave amplitude, the P-wave amplitude, the reversion pace count, the refractory sense count, the high rate episode count, and the time from implant; and

determining, by the lead status monitor, if a lead status event has occurred based on a result of the algorithm.